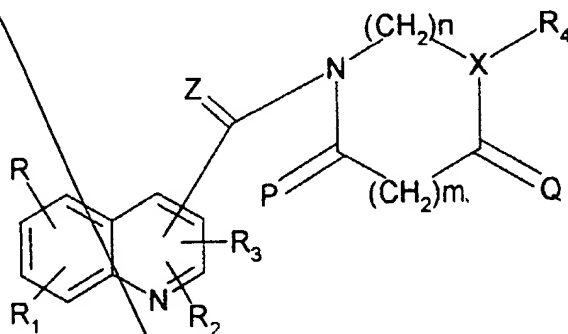


We claim:

1. A quinoline derivatives according to the formula 1

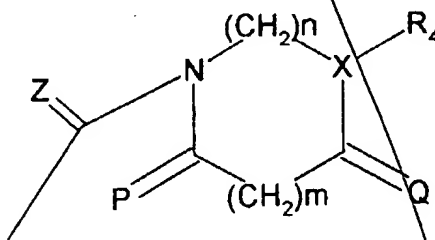


in which

R, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> can be attached to any of the quinoline carbon atoms C<sub>2</sub> to C<sub>8</sub>, are the same or different and independently of one another denote hydrogen, straight-chain or branched C<sub>1-8</sub> alkyl, hydroxyl, C<sub>3-7</sub> cycloalkyl, straight-chain or branched C<sub>1-8</sub> alkylcarbonyl, straight-chain or branched C<sub>1-8</sub> alkoxy, halogen, aryl-C<sub>1-8</sub> alkoxy, nitro, amino, mono-C<sub>1-4</sub> alkylamino, di-C<sub>1-4</sub> alkylamino, C<sub>1-8</sub> alkoxycarbonylamino, C<sub>1-6</sub> alkoxycarbonylamino-C<sub>1-8</sub> alkyl, cyano, straight-chain or branched cyano-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, carboxyl, C<sub>1-8</sub> alkoxycarbonyl, C<sub>1-4</sub> alkyl which is substituted by one or more fluorine atoms, carboxy-C<sub>1-8</sub> alkyl or C<sub>1-8</sub> alkoxycarbonyl-C<sub>1-6</sub> alkyl, C<sub>2-6</sub>

alkenyl, C<sub>2-6</sub> alkynyl, straight-chain or branched cyano-C<sub>1-6</sub>  
 alkyl, aryl, where the aryl radical can be unsubstituted or  
 mono- or polysubstituted by the same or different substituents  
 from the group of halogen, straight-chain or branched C<sub>1-8</sub>  
 alkyl, C<sub>3-7</sub> cycloalkyl, carboxyl, straight-chain or branched C<sub>1-8</sub>  
 alkoxy, by trifluoromethyl, hydroxyl, straight-chain  
 or branched C<sub>1-8</sub> alkoxy, benzyloxy, nitro, amino, mono-C<sub>1-4</sub>  
 alkylamino, di-C<sub>1-4</sub> alkylamino, cyano, straight-chain or  
 branched cyano-C<sub>1-6</sub> alkyl, where R and R<sub>1</sub> or R<sub>2</sub> and R<sub>3</sub> can  
 form a fused aromatic 6-membered ring with the quinoline  
 ring forming an acridine ring which can be substituted at any  
 C atom ring position by the radicals R, R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> having  
 the meanings mentioned above;

Z is oxygen or sulfur, where the radical



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Sub  
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substituted on the quinoline heterocycle can be attached to C  
atoms C<sub>2-8</sub> of the quinoline ring;

X is nitrogen or C-R<sub>5</sub>, where R<sub>5</sub> is hydrogen or C<sub>1-6</sub> alkyl;

n,m are independently of one another a cardinal number between 0 and  
3, with the proviso that when n is 0, X is a CR<sub>5</sub>R<sub>6</sub> group wherein R<sub>5</sub>  
and R<sub>6</sub> are independently of one another hydrogen or C<sub>1-6</sub> alkyl, and  
that the nitrogen atom adjacent to the C=Z group is substituted by a  
hydrogen atom or a C<sub>1-6</sub> alkyl group;

R<sub>4</sub> is a straight-chain or branched C<sub>1-20</sub> alkyl radical which can be  
saturated or unsaturated, with one to three double and/or triple  
bonds, and which can be unsubstituted or can optionally be  
substituted at the same or different C atoms by one, two or more  
aryl, heteroaryl, halogen, cyano, C=NH (NH<sub>2</sub>), C<sub>1-6</sub>  
alkoxycarbonylamino, C<sub>1-6</sub> alkoxy, amino, mono-C<sub>1-4</sub> alkylamino or  
di-C<sub>1-4</sub> alkylamino; C<sub>1-4</sub> alkoxy carbonyl, a C<sub>6-14</sub> aryl radical, C<sub>6-14</sub>  
aryl-C<sub>1-4</sub> alkyl radical, or a C<sub>2-10</sub> heteroaryl or C<sub>2-10</sub> heteroaryl-C<sub>1-4</sub>  
alkyl radical which contains one or more heteroatoms N, O and S,  
where the C<sub>1-4</sub> alkyl radical can be unsubstituted or mono- or  
polysubstituted by the same or different substituents from the group  
of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and where the C<sub>6-14</sub> aryl or C<sub>2-10</sub>  
heteroaryl radical can be unsubstituted or mono- or polysubstituted

51 by the same or different substituents from the group of straight-chain  
52 or branched C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, halogen, cyano, C<sub>1-6</sub>  
53 alkoxycarbonylamino, C<sub>1-6</sub> alkoxy, carboxyl, C<sub>1-8</sub> alkoxycarbonyl,  
54 straight-chain or branched C<sub>1-6</sub> alkyl which is substituted by one or  
55 more fluorine atoms, hydroxyl, straight-chain or branched C<sub>1-8</sub>  
56 alkoxy, where adjacent oxygen atoms may also be linked by C<sub>1-2</sub>  
57 alkylene groups, benzyloxy, nitro, amino, mono-C<sub>1-4</sub> alkylamino, di-  
58 C<sub>1-4</sub> alkylamino, aryl, which can be unsubstituted or mono- or  
59 polysubstituted by the same or different substituents from the group  
60 of straight-chain or branched C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, carboxyl,  
61 straight-chain or branched C<sub>1-8</sub> alkoxycarbonyl, trifluoromethyl,  
62 hydroxyl, straight-chain or branched C<sub>1-8</sub> alkoxy, benzyloxy, nitro,  
63 amino, mono-C<sub>1-4</sub> alkylamino, di-C<sub>1-4</sub> alkylamino, cyano, straight-  
64 chain or branched cyano-C<sub>1-6</sub> alkyl;

65 and their structural isomers and stereoisomers, particularly  
66 tautomers, diastereomers and enantiomers, and their  
67 pharmaceutically acceptable salts.

- 1 2. The quinoline derivative of claim 1, wherein  
2 in R, R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub>, said C<sub>1-8</sub> alkylcarbonyl is acetyl, said C<sub>1-8</sub> alkoxy is  
3 benzyloxy or phenylethoxy, said fluorine atoms are trifluoromethyl,  
4 said C<sub>2-6</sub> alkenyl is allyl, said C<sub>2-6</sub> alkynyl is ethynyl or propargyl,

1 said cyano-C<sub>1-6</sub> alkyl is cyanomethyl, said C<sub>1-8</sub> alkoxy- carbonyl is  
2 tert-butoxycarbonyl, and said C<sub>1-8</sub> alkoxy is methoxy or ethoxy, and  
3 in R<sub>4</sub> said fluorine atoms are trifluoromethyl, said C<sub>1-8</sub> alkoxy is methoxy  
4 or ethoxy, and said C<sub>1-2</sub> alkylene group is a methylene group.

1 3. The quinoline derivative of formula 1 of claim 1, wherein R, R1, R2,  
2 R3, X, Z, P, Q, n and m have the meanings given in claim 1

3 R4 is a straight-chain or branched C<sub>1-20</sub> alkyl radical which can be  
4 saturated or unsaturated, with one to three double and/or triple  
5 bonds, and which can be unsubstituted or optionally substituted  
6 on the same or different C atoms by one, two or more aryl,  
7 heteroaryl, halogen, C<sub>1-6</sub> alkoxy, amino, mono- C<sub>1-4</sub> alkylamino  
8 or di-C<sub>1-4</sub> alkylamino;

9 a phenyl ring or a naphthyl ring, each of which can be  
10 unsubstituted or mono- or polysubstituted by the same or  
11 different substituents from the group of straight-chain or

12 branched  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, halogen, cyano,  $C_{1-6}$   
13 alkoxy-carbonylamino,  $C_{1-6}$  alkoxy, carboxyl,  $C_{1-8}$   
14 alkoxy-carbonyl, straight-chain or branched  $C_{1-6}$  alkyl which is  
15 substituted by one or more fluorine atoms, hydroxyl, straight-  
16 chain or branched  $C_{1-8}$  alkoxy, benzyloxy, nitro, amino, mono-  
17  $C_{1-4}$  alkylamino, di- $C_{1-4}$  alkylamino, aryl, which can be  
18 unsubstituted or mono- or polysubstituted by the same or  
19 different substituents from the group of straight-chain or  
20 branched  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, carboxyl, straight-chain or  
21 branched  $C_{1-8}$  alkoxy-carbonyl, by trifluoromethyl, hydroxyl,  
22 straight-chain or branched  $C_{1-8}$  alkoxy, benzyloxy, nitro, amino,  
23 mono- $C_{1-4}$  alkylamino, di- $C_{1-4}$  alkylamino, cyano, straight-chain  
24 or branched cyano-  $C_{1-6}$  alkyl;

25 a 2-, 4-, 5- or 6-pyrimidinyl radical, or a 2-, 4-, 5- or 6-  
26 pyrimidinyl- $C_{1-4}$  alkyl radical, wherein the  $C_{1-4}$  alkyl radical can  
27 be unsubstituted or mono- or polysubstituted by the same or  
28 different substituents from the group of  $C_{1-6}$  alkyl, halogen or

29                   oxo (=O), and the 2-, 4-, 5- or 6-pyrimidinyl radical can be  
30                   unsubstituted or mono- or up to trisubstituted by the same or  
31                   different substituents from the group of hydrogen, or Y

32                   wherein Y is a C<sub>1-6</sub> alkyl, halogen, nitro, amino, mono-C<sub>1-6</sub> alkylamino, di-  
33                   C<sub>1-6</sub> alkylamino, hydroxyl, C<sub>1-6</sub> alkoxy, benzyloxy, carboxyl, C<sub>1-6</sub>  
34                   alkoxycarbonyl, C<sub>1-6</sub> alkoxycarbonylamino or C<sub>1-6</sub> alkyl which is  
35                   mono- or polysubstituted by fluorine, C<sub>6-10</sub> aryl and C<sub>6-10</sub> aryl-  
36                   C<sub>1-6</sub> alkyl;

37                   a 3-, 4-, 5- or 6-pyridazinyl radical, or a 3-, 4-, 5- or 6-  
38                   pyridazinyl-C<sub>1-4</sub> alkyl radical, wherein the C<sub>1-4</sub> alkyl radical can  
39                   be unsubstituted or mono- or polysubstituted by the same or  
40                   different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
41                   oxo (=O), and the 3-, 4-, 5- or 6-pyridazinyl radical can be  
42                   unsubstituted or mono- or up to trisubstituted by the same or  
43                   different substituents from the group of hydrogen, or Y;

44 a 2-, 3-, 5- or 6-pyrazinyl radical, or a 2-, 3-, 5- or 6-pyrazinyl-  
45 C<sub>1-4</sub> alkyl radical, wherein the C<sub>1-4</sub> alkyl radical can be  
46 unsubstituted or mono- or polysubstituted by the same or  
47 different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
48 oxo (=O), and the 2-, 3-, 5- or 6-pyrazinyl radical can be  
49 unsubstituted or mono- or up to trisubstituted by the same or  
50 different substituents from the group of hydrogen, or Y;  
51 a 3-, 4-, 5-, 6-, 7-, or 8-cinnolinyl radical, or a 3-, 4-, 5-, 6-, 7-, or  
52 8-cinnolinyl-C<sub>1-4</sub> alkyl radical, wherein the C<sub>1-4</sub> alkyl radical can  
53 be unsubstituted or mono- or polysubstituted by the same or  
54 different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
55 oxo (=O), and the 3-, 4-, 5-, 6-, 7-, or 8-cinnolinyl radical can be  
56 unsubstituted or mono- or up to pentasubstituted by the same or  
57 different substituents from the group of hydrogen, or Y;

58 a 2-, 4-, 5-, 6-, 7-, or 8-quinazolinyl radical, or a 2-, 4-, 5-, 6-, 7-  
59 , or 8-quinazolinyl-C<sub>1-4</sub> alkyl radical, wherein the C<sub>1-4</sub> alkyl  
60 radical can be unsubstituted or mono- or polysubstituted by the



61 same or different substituents from the group of hydrogen,  $C_{1-6}$   
62 alkyl, halogen or oxo ( $=O$ ), and the 2-, 4-, 5-, 6-, 7-, or  
63 8-quinazolinyl radical can be unsubstituted or mono- or up to  
64 pentasubstituted by the same or different substituents from the  
65 group of hydrogen, or Y;

66 a 2-, 3-, 5-, 6-, 7-, or 8-quinoxaliny radical, or a 2-, 3-, 5-, 6-, 7-  
67 , or 8-quinoxaliny- $C_{1-4}$  alkyl radical, wherein the  $C_{1-4}$  alkyl  
68 radical can be unsubstituted or mono- or polysubstituted by the  
69 same or different substituents from the group of  $C_{1-6}$  alkyl,  
70 halogen or oxo ( $=O$ ), and the 2-, 3-, 5-, 6-, 7-, or 8-quinoxaliny  
71 radical can be unsubstituted or mono- or up to pentasubstituted  
72 by the same or different substituents from the group of  
73 hydrogen, or Y;

74 a 1-, 4-, 5-, 6-, 7-, or 8-phthalaziny radical, or a 1-, 4-, 5-, 6-, 7-  
75 , or 8-phthalaziny- $C_{1-4}$  alkyl radical, wherein the  $C_{1-4}$  alkyl  
76 radical can be unsubstituted or mono- or polysubstituted by the

77 same or different substituents from the group of C<sub>1-6</sub> alkyl,  
78 halogen or oxo (=O), and the 1-, 4-, 5-, 6-, 7-, or 8-phthalazinyl  
79 radical can be unsubstituted or mono- or up to pentasubstituted  
80 by the same or different substituents from the group of  
81 hydrogen, or Y;

82 a 2-, 3-, 4-, 5-, 6-, 7- or 8-quinolyl radical, or a 2-, 3-, 4-, 5-, 6-,  
83 7 or 8-quinolyl-C<sub>1-4</sub> alkyl radical, wherein the C<sub>1-4</sub> alkyl radical  
84 can be unsubstituted or mono- or polysubstituted by the same or  
85 different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
86 oxo (=O), and the 2-, 3-, 4-, 5-, 6-, 7- or 8-quinolyl radical can  
87 be unsubstituted or mono- or up to hexasubstituted by the same  
88 or different substituents from the group of hydrogen, or Y;

89 a 1-, 3-, 4-, 5-, 6-, 7- or 8-isoquinolyl radical, or a 1-, 3-, 4-, 5-,  
90 6-, 7- or 8-isoquinolyl-C<sub>1-4</sub> alkyl radical, wherein the C<sub>1-4</sub> alkyl  
91 radical can be unsubstituted or mono- or polysubstituted by the  
92 same or different substituents from the group of C<sub>1-6</sub> alkyl,

halogen or oxo (=O), and the 1-, 3-, 4-, 5-, 6-, 7- or 8-isoquinolyl radical can be unsubstituted or mono- or up to hexasubstituted by the same or different substituents from the group of hydrogen, or Y;

a 2-, 6-, 8- or 9-[9H]-purinyl radical, or a 2-, 6-, 8- or 9-[9H]-purinyl-C<sub>1-4</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be unsubstituted or mono- or polysubstituted by the same or different substituents from the group of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 2-, 6-, 8- or 9-[9H]-purinyl radical can be unsubstituted or mono- to trisubstituted by the same or different substituents from the group of hydrogen, or Y;

a 2-, 6-, 7- or 8-[7H]-purinyl radical, or a 2-, 6-, 7- or 8-[7H]-purinyl-C<sub>1-4</sub> alkyl radical, wherein the C<sub>1-4</sub> alkyl radical can be unsubstituted or mono- or polysubstituted by the same or different substituents from the group of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 2-, 6-, 7- or 8-[7H]-purinyl radical can be

109 unsubstituted or mono- or up to trisubstituted by the same or  
110 different substituents from the group of hydrogen, or Y;

111 a 1-, 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-acridinyl radical, or a 1-, 2-, 3-,  
112 4-, 5-, 6-, 7-, 8- or 9-acridinyl-C<sub>1-4</sub> alkyl radical, where the C<sub>1-6</sub>  
113 alkyl radical can be unsubstituted or mono- or polysubstituted by  
114 the same or different substituents from the group of C<sub>1-6</sub> alkyl,  
115 halogen or oxo (=O), and the 1-, 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-  
116 acridinyl radical can be unsubstituted or mono- to  
117 octasubstituted by the same or different substituents from the  
118 group of hydrogen, or Y;

119 a 1-, 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-phenanthridinyl radical, or a 1-,  
120 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-phenanthridinyl-C<sub>1-6</sub> alkyl radical,  
121 wherein the C<sub>1-6</sub> alkyl radical can be unsubstituted or mono- or  
122 polysubstituted by the same or different substituents from the  
123 group of hydrogen, C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 1-,  
124 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-phenanthridinyl radical can be

125 unsubstituted or mono- or up to octasubstituted by the same or  
126 different substituents of Y;

127 a 2-, 3-, 4-, 5- or 6-pyridyl radical where the 2-, 3-, 4-, 5- or 6-  
128 pyridyl radical can be unsubstituted or mono- or up to  
129 tetrasubstituted by the same or different substituents from the  
130 group of hydrogen, or Y;

131 a 2-, 3-, 4-, 5- or 6-pyridinyl- $C_{1-6}$  alkyl radical, wherein the  $C_{1-6}$   
132 alkyl radical can be unsubstituted or mono- or polysubstituted by  
133 the same or different substituents from the group of  $C_{1-6}$  alkyl,  
134 halogen or oxo (=O), and the 2-, 3-, 4-, 5- or 6-pyridinyl radical  
135 can be unsubstituted or mono- or up to tetrasubstituted by the  
136 same or different substituents from the group of hydrogen, or Y;

137 a 2-, 3-, 4- or 5-thienyl radical, or a 2-, 3-, 4- or 5-thienyl-  $C_{1-6}$   
138 alkyl radical, wherein the  $C_{1-6}$  alkyl radical can be unsubstituted  
139 or mono- or polysubstituted by the same or different substituents

140 from the group of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 2-, 3-,  
141 4- or 5-thienyl radical can be unsubstituted or mono- or up to  
142 trisubstituted by the same or different substituents from the  
143 group of hydrogen, or Y;

144 a 2-, 4-, or 5-thiazolyl radical, or a 2-, 4-, or 5-thiazolyl C<sub>1-6</sub> alkyl  
145 radical, wherein the C<sub>1-6</sub> alkyl radical can be unsubstituted or  
146 mono- or polysubstituted by the same or different substituents  
147 from the group of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 2-, 4-,  
148 or 5-thiazolyl radical can be unsubstituted or mono- or  
149 disubstituted by the same or different substituents from the  
150 group of hydrogen, or Y;

151 a 3-, 4-, or 5-isothiazolyl radical, or a 3-, 4-, or 5-isothiazolyl-C<sub>1-</sub>  
152 <sub>6</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be unsubstituted  
153 or mono- or polysubstituted by the same or different substituents  
154 from the group of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 3-, 4-,  
155 or 5-isothiazolyl radical can be unsubstituted or mono- or

156 disubstituted by the same or different substituents from the  
157 group of hydrogen, or Y;

158 a 2-, 4-, 5-, 6-, or 7-benzothiazolyl radical, or a 2-, 4-, 5-, 6-, or  
159 7-benzothiazolyl-C<sub>1-6</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical  
160 can be unsubstituted or mono- or polysubstituted by the same or  
161 different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
162 oxo (=O), and the 2-, 4-, 5-, 6-, or 7-benzothiazolyl radical can  
163 be unsubstituted or mono- or up to tetrasubstituted by the same  
164 or different substituents from the group of hydrogen, or Y;

165 a 1-, 2-, 4-, or 5-imidazolyl radical, or a 1-, 2-, 4-, or 5-  
166 imidazolyl-C<sub>1-6</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can  
167 be unsubstituted or mono- or polysubstituted by the same or  
168 different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
169 oxo (=O), and the 1-, 2-, 4-, or 5-imidazolyl radical can be  
170 unsubstituted or mono- or up to trisubstituted by the same or  
171 different substituents from the group of hydrogen, or Y;

172 a 1-, 3-, 4-, or 5-pyrazolyl radical, or a 1-, 3-, 4- or 5-pyrazolyl-  
173 C<sub>1-6</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be  
174 unsubstituted or mono- or polysubstituted by the same or  
175 different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
176 oxo (=O), and the 1-, 3-, 4- or 5-pyrazolyl radical can be  
177 unsubstituted or mono- or up to trisubstituted by the same or  
178 different substituents from the group of hydrogen, or Y;

179 a 1-, 2-, 3-, 4-, or 5-pyrrolyl radical, or a 1-, 2-, 3-, 4-, or 5-  
180 pyrrolyl-C<sub>1-6</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be  
181 unsubstituted or mono- or polysubstituted by the same or  
182 different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
183 oxo (=O), and the 1-, 2-, 3-, 4- or 5-pyrrolyl radical can be  
184 unsubstituted or mono- or up to tetrasubstituted by the same or  
185 different substituents from the group of hydrogen, or Y;

186 a 1-, 3-, or 5-[1.2.4]-triazolyl radical, or a 1-, 3-, or 5-[1.2.4]-  
187 triazolyl-C<sub>1-6</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be



188 unsubstituted or mono- or polysubstituted by the same or  
189 different substituents from the group of hydrogen, C<sub>1-6</sub> alkyl,  
190 halogen or oxo (=O), and the 1-, 3-, or 5-[1.2.4]-triazolyl radical  
191 can be unsubstituted or mono- or disubstituted by the same or  
192 different substituents from Y;

193 a 1-, 4-, or 5-[1.2.3]-triazolyl radical, or a 1-, 4-, or 5-[1.2.3]-  
194 triazolyl-C<sub>1-6</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be  
195 unsubstituted or mono- or polysubstituted by the same or  
196 different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
197 oxo (=O), and the 1-, 4-, or 5-[1.2.3]-triazolyl radical can be  
198 unsubstituted or mono- or disubstituted by the same or different  
199 substituents from the group of hydrogen, or Y;

200 a 1- or 5-[1*H*]-tetrazolyl radical, or a 1-, or 5-[1*H*]-tetrazolyl-C<sub>1-6</sub>  
201 alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be unsubstituted  
202 or mono- or polysubstituted by the same or different substituents  
203 from the group of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 1-, or

204 5-[1*H*]-tetrazolyl radical can be unsubstituted or substituted by  
205 hydrogen, or Y;

206 a 2- or 5-[2*H*]-tetrazoyl radical, or a 2- or 5-[2*H*]-tetrazolyl-C<sub>1-6</sub>  
207 alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be unsubstituted  
208 or mono- or polysubstituted by the same or different substituents  
209 from the group of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 2- or  
210 5-[2*H*]-tetrazolyl radical can be unsubstituted or substituted by  
211 hydrogen, or Y;

212 a 2-, 4-, or 6-[1.3.5]-triazinyl radical, or a 2-, 4-, or 6-[1.3.5]-  
213 triazinyl-C<sub>1-6</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be  
214 unsubstituted or mono- or polysubstituted by the same or  
215 different substituents from the group of hydrogen, C<sub>1-6</sub> alkyl,  
216 halogen or oxo (=O), and the 2-, 4-, or 6-[1.3.5]-triazinyl radical  
217 can be unsubstituted or mono- or disubstituted by the same or  
218 different substituents from the group of hydrogen, or Y;

219 a 2-, 4-, or 5-oxazolyl radical, or a 2-, 4-, or 5-oxazolyl-C<sub>1-6</sub> alkyl  
220 radical, wherein the C<sub>1-6</sub> alkyl radical can be unsubstituted or  
221 mono- or polysubstituted by the same or different substituents  
222 from the group of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 2-, 4-,  
223 or 5-oxazolyl radical can be unsubstituted or mono- or  
224 disubstituted by the same or different substituents from the  
225 group of hydrogen, or Y;

226 a 3-, 4-, or 5-isoxazolyl radical, or a 3-, 4-, or 5-isoxazolyl-C<sub>1-6</sub>  
227 alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can be unsubstituted  
228 or mono- or polysubstituted by the same or different substituents  
229 from the group of C<sub>1-6</sub> alkyl, halogen or oxo (=O), and the 3-, 4-,  
230 or 5-isoxazolyl radical can be unsubstituted or mono- or  
231 disubstituted by the same or different substituents from the  
232 group of hydrogen, or Y;

233 a 1-, 2-, 3-, 4-, 5-, 6- or 7-indolyl radical, or a 1-, 2-, 3-, 4-, 5-, 6-  
234 or 7-indolyl-C<sub>1-6</sub> alkyl radical, wherein the C<sub>1-6</sub> alkyl radical can

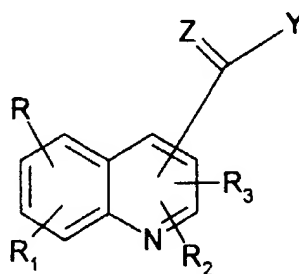
235 be unsubstituted or mono- or polysubstituted by the same or  
236 different substituents from the group of C<sub>1-6</sub> alkyl, halogen or  
237 oxo (=O), and the 1-, 2-, 3-, 4-, 5-, 6- or 7-indolyl radical can be  
238 unsubstituted or mono- or up to hexasubstituted by the same or  
239 different substituents from the group of hydrogen, or Y.

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- 1 7. The quinoline derivative of claim 1, wherein  $R_4$  has the meanings  
2 given above,  $R$ ,  $R_1$ ,  $R_2$ ,  $R_3$  each is hydrogen,  $Z$  is an oxygen atom,  $X$   
3 is a nitrogen atom,  $P$  and  $Q$  are each two hydrogen atoms as in  
4  $-\text{CH}_2-$ ,  $m$  is zero, and  $n$  is 2.

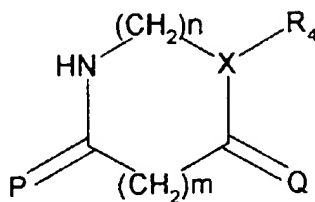
- 1 8. The quinoline derivative of claim 1, wherein  $R$ ,  $R_1$ ,  $R_2$ ,  $R_3$  are each a  
2 hydrogen atom,  $Z$  is an oxygen atom,  $X$  is a nitrogen atom,  $P$  and  $Q$   
3 each are two hydrogen atoms as in  $-\text{CH}_2-$ ,  $m$  is zero,  $n$  is 2, and  $R_4$  is  
4 a 3,5-dimethoxyphenyl radical.

- 1 9. A process for preparing the quinoline derivative of claim 1, which  
2 comprises reacting a quinoline carboxylic acid of formula (2)



(2)

in which R, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> have the meanings given above, Z is an oxygen or sulfur atom, and Y is a leaving group with an amine of formula (3)



(3)

in which R<sub>4</sub>, X, P, Q, m and n have the meanings given above, optionally in the presence of diluents and auxiliaries.

10. The process of claim 10, wherein said leaving group is halogen, hydroxyl, C<sub>1-6</sub> alkoxy, -O-tosyl, -O-mesyl, or imidazolyl.

11. The process of claim 10, wherein said C<sub>1-6</sub> alkoxy is methoxy or ethoxy.

1 12. A therapeutic method for treating tumors in mammals, which  
2 comprises administering to a mammal in need therefor at least one  
3 quinoline derivative of claim 1 in a tumor treatment effective dose.

1 13. A medicament which comprises as active ingredient at least one  
2 quinoline derivative according of claim 1, together with  
3 conventional pharmaceutically acceptable auxiliaries, additives and  
4 carriers.

1 14. The pharmaceutically acceptable acid addition salt of the quinoline  
2 derivative of claim 1, when formed with one of the acids  
3 hydrochloric acid, hydrobromic acid, sulfuric acid, phosphoric acid,  
4 fumaric acid, succinic acid, lactic acid, citric acid, acetic acid,  
5 tartaric acid, malic acid, maleic acid, embonic acid, malonic acid,  
6 trifluoroacetic acid, metanesulfonic acid, and sulfoacetic acid.